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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,285

04/05/2006

Shigenori Morimoto

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10/06/2008

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EXAMINER

BEATTY, ROBERT B

ART UNIT

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2852

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,285	Applicant(s) MORIMOTO ET AL.	
	Examiner Robert B. Beatty	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11-20, 25 and 26 is/are rejected.
- 7) ☒ Claim(s) 5-10 and 21-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/26/06</u> . | 6) <input type="checkbox"/> Other: _____ |

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. The abstract of the disclosure is objected to because the reference numerals should be deleted. Correction is required. See MPEP § 608.01(b).

3. Claim 6,11-24,26 is objected to because of the following informalities:

In claim 6, lines 3-4, the applicant mentions "first eccentric cam" however this lacks proper antecedent basis. It is believed this claim should depend from claim 5.

In claim 11, the applicant states that the "moving path" of the endless belt is made of a "first through a third path" which is unclear / awkward. It is believed the path of the endless belt is the same although the position or shape of the belt would change depending on the mode selected. See claim 15 and dependents therefrom.

Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4,11-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakagami et al. (JP# 2003-107847).

Sakagami et al. teach an image forming apparatus comprising an endless transfer belt 52 stretched between a driving and driven roller 50,51, a plurality of image carriers 10a, 10b, 10c, 10d facing the transfer belt within a prescribed range, and a plurality of image transfer rollers 13a, 13b, 13c, 13d which transfer an image from the associated image carrier to the a recording medium transported by the transfer belt. A supporting mechanism 57 for supporting transfer rollers 13a, 13b, 13c and a supporting mechanism 58 for supporting transfer rollers 13d is located within the transfer belt. A eccentric cam 61 will move the supporting mechanism 57 and an eccentric cam 62 will move the supporting mechanism 58. When a full color copy is needed (black, cyan, yellow, magenta) the cams move the supporting mechanisms so that the transfer rollers are biased against the image carriers via the transfer belt (applicant's second moving path; see Fig. 1). When a monochrome copy is needed, the supporting mechanism 57 will be moved away from the image carriers via the rotation of the eccentric cam 61. Thus only the transfer rollers 13d will be biased against the image carrier 10d via the transfer belt for producing a monochrome (black) image (applicant's third moving path; see Fig.2). In a stand-by position, both the supporting mechanisms 57, 58 will be moved so that all the transfer rollers are out of engagement with the image carriers (applicant's first moving path; see Fig.3). As seen in Fig. 4-5, a tension roller 54 is biased against the

interior of the transfer belt and is associated with the supporting mechanism 57 /
cam 61 and spring 55.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 20,25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Sakagami et al. (JP# 2003-107847) in view of Hayashi et al. (JP# 2000-
275985).

Sakagami et al. taught supra discloses most of what is claimed except the
tension roller for the transfer belt having a larger radius in its central region than
the end regions. In addition, the transfer belt being an intermediate transfer belt is
not taught. Hayashi et al. teach an image forming apparatus which has a plurality
of image carriers 7Y, 7M, 7C, 7K facing an intermediate transfer belt 2. The images
from the image carriers are superimposed on the intermediate transfer belt and
finally transferred to a recording sheet P via transfer roller 16. The intermediate
transfer belt has a tension roller 5 with a crown shape (middle region having larger
diameter, see Fig.4) or an inverted crown (Fig.3). It would have been obvious to one of
ordinary skill in the art at the time the invention was made to use a tension roller

for a transfer belt in the shape of a crown because using a crown shape will cause the belt to stretch in the width wise direction so as to prevent skewing of the belt which is well known in the electrophotographic art. Additionally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an intermediate transfer belt to form color images because is an equally well known manner to form superimposed color images onto a recording sheet (Sakagami et al. superimposes them right onto the recording sheet); the method of using the intermediate transfer belt allows for better correction of registration errors since using paper sheets have more conveyance variability.

6. Claims 5-10,21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakayama et al., Kanekura et al., Numazu et al., and Onuki et al. all teach various mechanisms for moving transfer belts using cams.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Beatty whose telephone number is (571) 272-2130. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray, can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Robert Beatty/
Primary Examiner
Art Unit 2852
October 7, 2008